Siemens S7-300/400PLC Ethernet Adapter

ETH Adapter CN

USER MANUAL

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Preface

Thanks a lot for your choosing our products.

Before you use,please be sure to read this manual carefully, you will know its powerful and perfect function and simple use.

This adapter is used for the data communication between Siemens S7-300/400PLC and Ethernet, Internet or 3G wireless network by the MPI or PROFIBUS interface. Please use according to the manual,we won't assume any liability of property damage or personal injury due to your improper use.

We have the right to revise this maual at any time according to the needs of technology development and it won't be noticed before the revising.

Copyright Statement

Any people and institutions copy all or part will assume the corresponding legal responsibility without prior written consent.

Version Info

Document Name:《ETH Adapter CN user manual》

Version:V2.0

Revising Date:Sep.25,2010

Related Documents

In order to use this adapter better, please also read the following two documents:

1.《Device Manager Parameter Setting Software Manual》

2.《VCOMM Virtual Serial Port Software Manual》

Product Content

1.ETH Adapter CN　1PC

2. RJ45 Cable 1 PC,　2 M

3.CD 1PC

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1. Characteristics & Technical Parameters

ETH Adapter CN is the industrial product which use the Ethernet and Internet or 3G wirelss network to achieve Siemens S7-300/400PLC networking communication. It integrates many complex network protocols, support TCP Server,TCP Client,UDP Unicast,UDP Multicast etc many modes.It has 10M/100M adaptive Ethernet interface and MPI and PROFIBUS interface which meets Siemens technical specifications.You only need to go on simple setting and then let the S7-300/400PLC go on network communication.

The RJ45 port,RS485 interface and power supply port are all isolated in order to suit harsh environment in the industrial situations. Especially the isolated power supply port and each signal pin has anti-static protection and surge protection which can solve the PLC communication port easily damaged problem.

◆ High-speed, reliable industry standard, anti-interference design suit for the harsh electromagnetic environment
◆ 32 bit RISC (NP7 series) ARM7TDMI 55DMIPS。
◆ 128KB SRAM,128KB Code + 32KB Boot。
◆10M/100M adaptive Ethernet interface
◆Support MPI and PROFIBUS communication protocol.
◆The largest baud rate is 1.5Mbps for MPI and Profibus interface.
◆Ethernet interface baud rate 9.6Kbps,19.2Kbps,38.4Kbps,57.6Kbps,115.2Kbps can be set.
◆Smart Protocols: TCP,UDP,ARP,IP,ICMP,DHCP,BOOTP,DNS.
◆Support Dynamic DNS
◆Working mode can be chose TCP Server,TCP Client,UDP Multicast and UDP Unicast.
◆Built-in Flash memory,can save the setted parameters
◆Support Windows 95/98/ME/NT/2000/XP/2003/XP/Vista/Win7 operation system.
◆RJ45 port 1500VDC electromagnetic isolated,RS485 interface 1000VDC electromagnetic isolated,power supply 1000VDC electromagnetic isolated
◆Interface protection: power supply port has the reverse polarity protection and over current protection,RS485 interface has the anti-lightning surge protection, repeatability surge capacity: Ipp=100A（10/700us，4KV）,meet standard ITU-TK20/21、VDE 0433. ±15KV ESD protection; overcurrent protection.
◆Power supply 24V±10% DC from PLC MPI or PROFIBUS socket,2W power.
◆Shape Size: 123mm×68mm×30mm(length*width*height),with the mounting bracket.
◆Temperature: -40°C to +80°C (-40°F to 176°F)，5% to 95% RH
◆Storage temperature: -40°C to +80°C (-40°F to 176°F)，5% to 95% RH。

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The network type and fieldbus communication baud rate which ETH Adapter CN support

Transmission rate	MPI	PPI	PROFIBUS		
			DP	Standard	Universal
9.6Kbps	-	-	√	√	√
19.2Kbps	√	-	√	√	√
45.45Kbps	-	-	√	√	√
93.75Kbps	-	-	√	√	√
187.5Kbps	√	-	√	√	√
500Kbps	-	-	√	√	√
1.5Mbps	√	-	√	√	√

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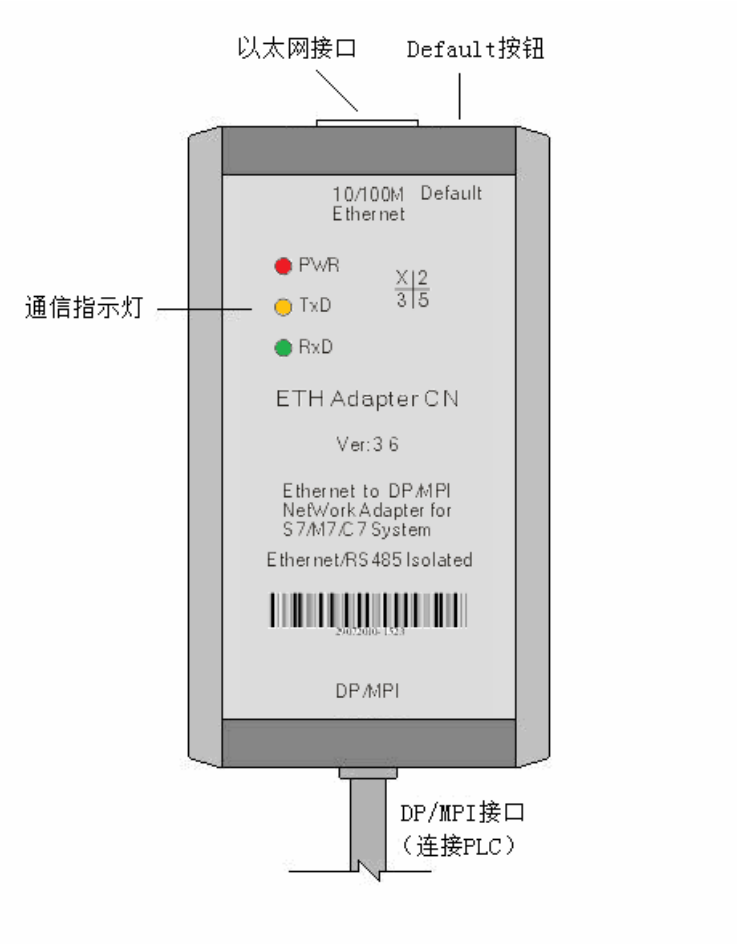
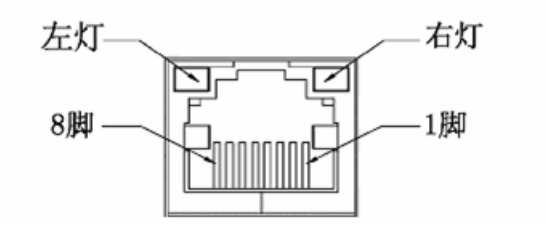
2. External structure &pin definition



Ethernet interface: Standard RJ45 socket, automatically adapt 10M/1000M Ethernet .Use the standard network cable, not crossover cable whether you connect the switch,router or directly connect the PC.



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The network status LED indicator on the RJ45 socket

LINK LED（left light,green）		ACT LED（right light,yellow）	
Status	Description	Status	Description
Light on	Network cable is connected correctly, work properly.	Flash	Sending and receiving data through the RJ45 port
Flash	Network cable is not plugged in, no available network	Extinguish	No data transceiving

Ethernet interface RJ45 socket signal array

Pin	Signal name	Function	Type
1	Tx+	Positive phase Ethernet data sending differential signal line	Output
2	Tx-	negative phase Ethernet data sending differential signal line	Output
3	Rx+	Positive phase Ethernet data receiving differential signal line	Input
4	Not used		-
5	Not used		-
6	Rx-	Negative phase Ethernet data receiving differential signal line	Input
7	Not used		-
8	Not used		-

Default Button: Restore the default setted parameters. Insert the penpoint into the hole to press the button for about 1 second, the internal Flash memory parameters will restore to factory default parameters: IP = 192.168.0.250, Username = admin, Password = admin. When you forget the IP address,user name or password, you can restore to the factory default parameters,and then reset the parameters.

DP/MPI interface: DP/MPI interface is the DB9M-pin plug which meets the Siemens PROFIBUS and MPI interface technical specifications, the signal array match S7-300/400PLC interface, and has a 0.5 meter cable, you just simply plug the DB9M of ETH Adapter CN directly into the S7-300/400PLC MPI or PROFIBUS interface outlet.

DP/MPI plug（DB9M pin）signal array

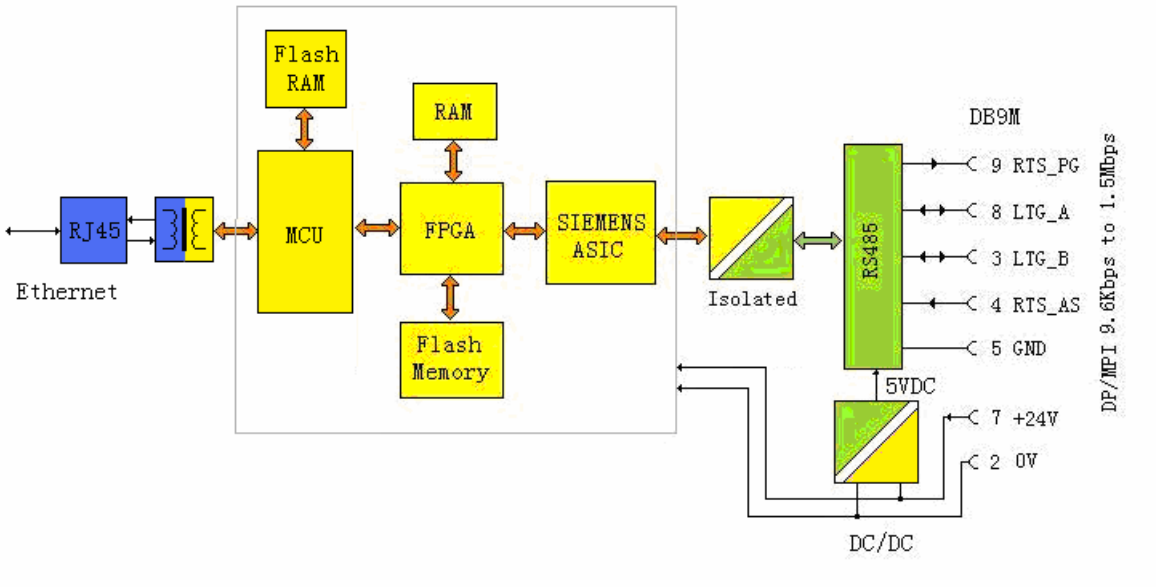
PIN	Signal name	Description	Input/Output
1	NC	No use	-
2	M24V	24VDC power negative	Input
3	LTG_B	RS485 signal positive	Input/Output

4	RTS_AS	RTSAS control signal ,when it has data receiving,the signal is “1”.	Input
5	M5V	RS485 signal ground and 5VDC power ground	Input
6	P5V	No use	-
7	P24V	24VDC power positive	Input
8	LTG_A	RS485 signal negative	Input/Output
9	RTS_PG	The adapter RTS output signal,when the adapter is sending signal,the signal is “1”,this signal is not connected to MPI extension cable.	输出 Output
Shell	Shielding	Shield ground (chassis ground)	

Panel communication indicator: there are three LED indicators on the panel, and its working state as the following table:

Indicator	Light on	Flash	Extinguish
PWR（Red）	Power supply normal	Fault	Fault or no power
TxD（Yellow）	Fault or signal polarity reversal	Serial port is receiving the date	Fault or no communication
RxD（Green）	Fault or signal polarity reversal	Serial port is sending the date	Fault or no communication

3. Inner Diagram

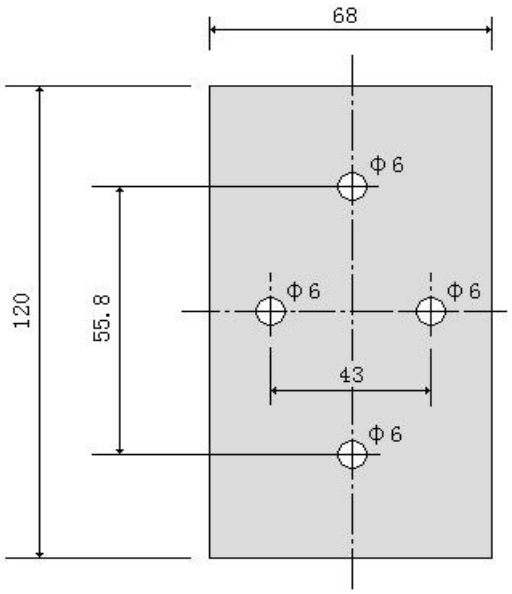


Why the 24V power,RJ45 port and RS485 three parties all need to be isolated?That’s because the 7 pin and 2 pin(output 24VDC power) and RS485 interface(DB9F socket 3、4、5、6、8、9pin) on

the PLC PROFIBUS socket are isolated,if the adapter is not isolated,it will damage the PLC isolation system,then damage the PLC or cause interference.

4.ETH Adapter CN installation

You can put the ETH Adapter CN on your desk or install it on the rail of control cabinet.It has the mounting bracket accessory.User can self-make an Aluminum board with thickness 1.5mm～2.5mm,then install the adapter on the S7-300/400PLC rail or 35MM standard rail.



Fix the Aluminum board on the S7-300 PLC rail

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ETH Adapter CN adapter has been installed on the S7-300PLC rail

5.ETH Adapter CN parameters setting

ETH Adapter CN needs to be configured the parameters to work correctly, the configuration parameters including the network parameters, communication protocols, connection, serial port parameters; it can be very flexible to satisfy your application. Configuration parameters are stored in the Flash memory, and they can be permanently stored without loss.

Use the standard RJ45 cable to connect the ETH Adapter CN and router or switch, at the same time make sure that the router or switch is connected to a computer in order to run the parameters setting software .You also can use a standard RJ45 cable to directly connect ETH Adapter CN and the computer, no need crossover cable, this product has auto-polarity discrimination function for the RJ45 cable.

Insert the DP/MPI plug（DB9M）of ETH Adapter CN into the DP or MPI socket of the S7-300/400PLC and power on the PLC.

The same local area network (router) can connect multiple ETH Adapter CN, but the same IP address is not allowed, there will be conflicts if the same IP , and it only shows one of IP and abnormality.

You can press the Default button on the ETH Adapter CN any time that could make it restore to the factory dafault.

IP=192.168.0.250，Username=admin，Password=admin

You need to check your computer's IP address and gateway address, and confirm your computer is in the normal Internet access, in the next setting, you need to set the gateway of ETH Adapter CN as same as the gateway of computer and router, that is to say, the ETH Adapter CN and

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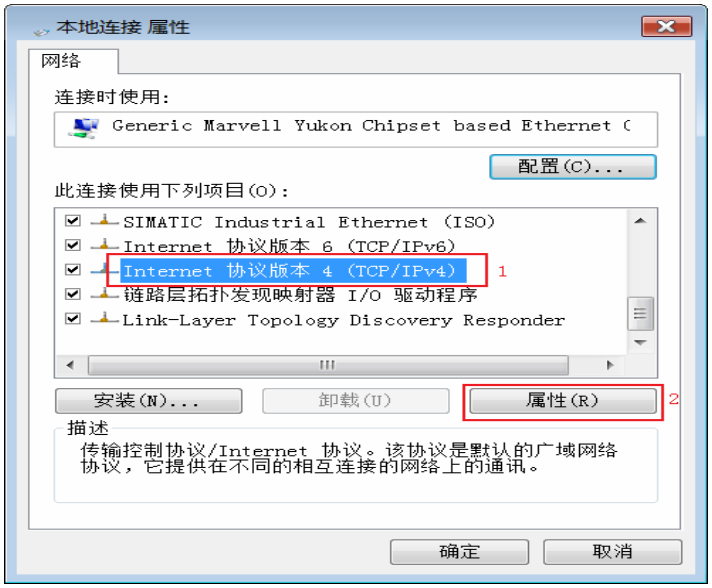
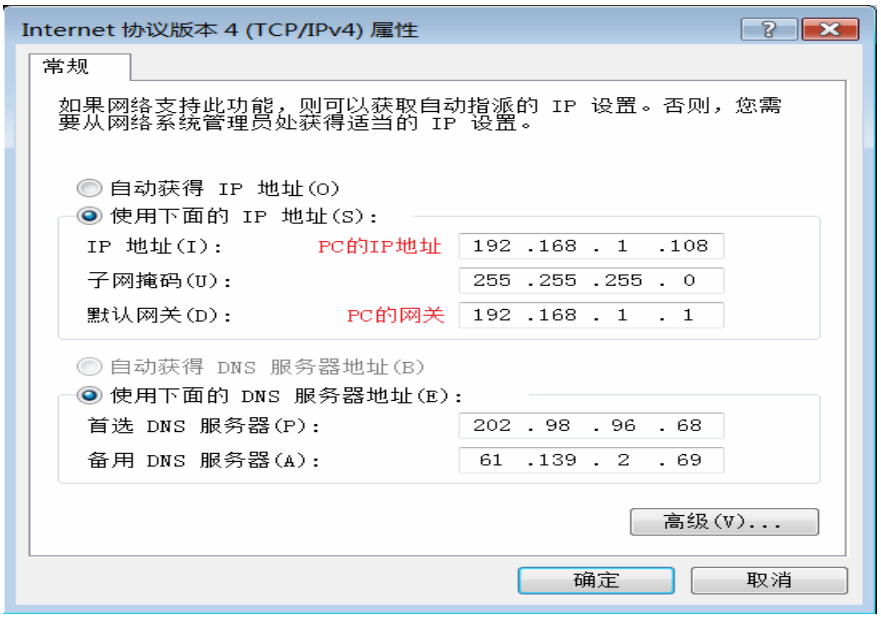
computer are in the same subnet, all equipments in this subnet and routers have the same gateway.

Enter the operating system and then right-click Network Neighborhood> View Network Connection> Properties, then pop up “local connection properties window":



Select the General page; click the Properties then pop-up the following window, record the IP address and the gateway of the computer for later use:



Copy the OEM Device Manager_SPCNML.rar file on the CD to your hard drive and extract it to the current folder, do not modify the folder name OEM Device Manager_SPCNML which store the

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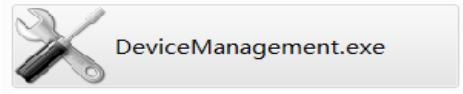
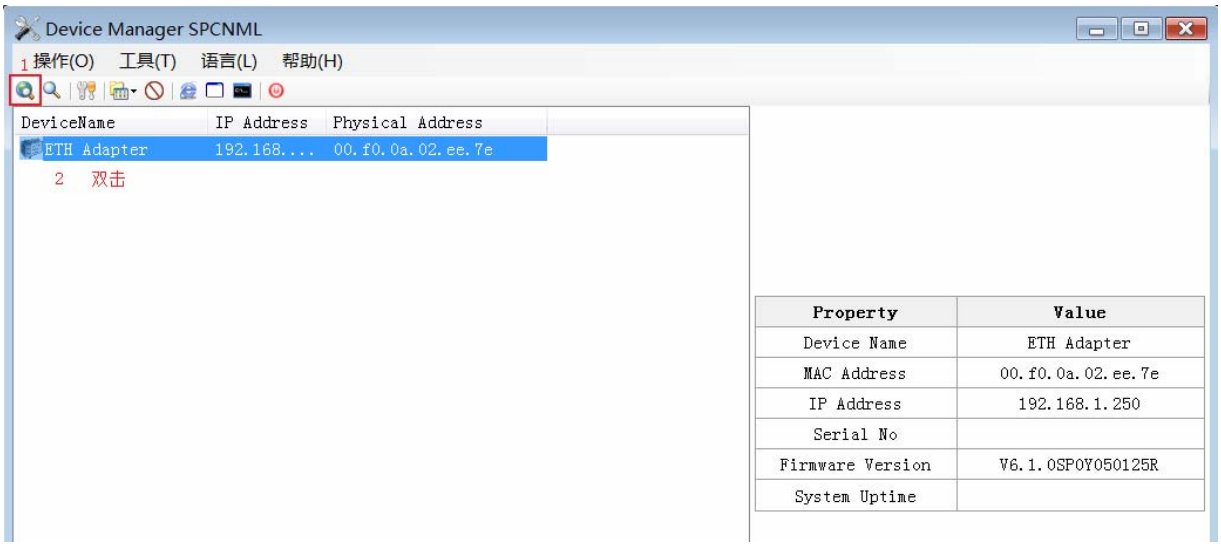
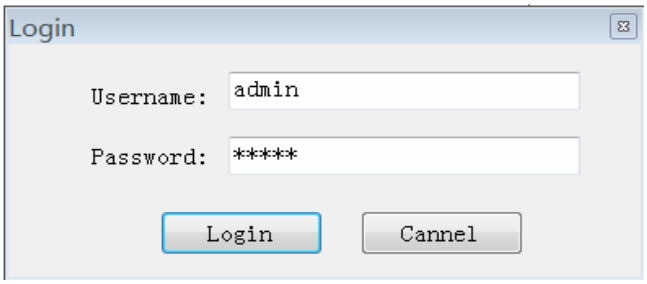
setting software. Double click the following icon in the OEM Device Manager_SPCNML folder to run setting software:



Click the Search button in the upper left corner, and then search out all ETH Adapter CN connected to the router after a few seconds, as shown below:



Double-click the ETH Adapter CN, pop-up dialog box, enter your user name and password to enter the setting interface. The factory default setting: Username = admin, Password = admin



Click "Login" to enter the configuration interface.

You must firstly click”OK” to effect the revised parameters(parameters not saved at this time) after you revise the parameters in every interface ,then finally click the "Apply Settings / Restart" to save parameters and restart the ETH Adapter CN to work with the new parameters and then exit the setting software. As shown below:

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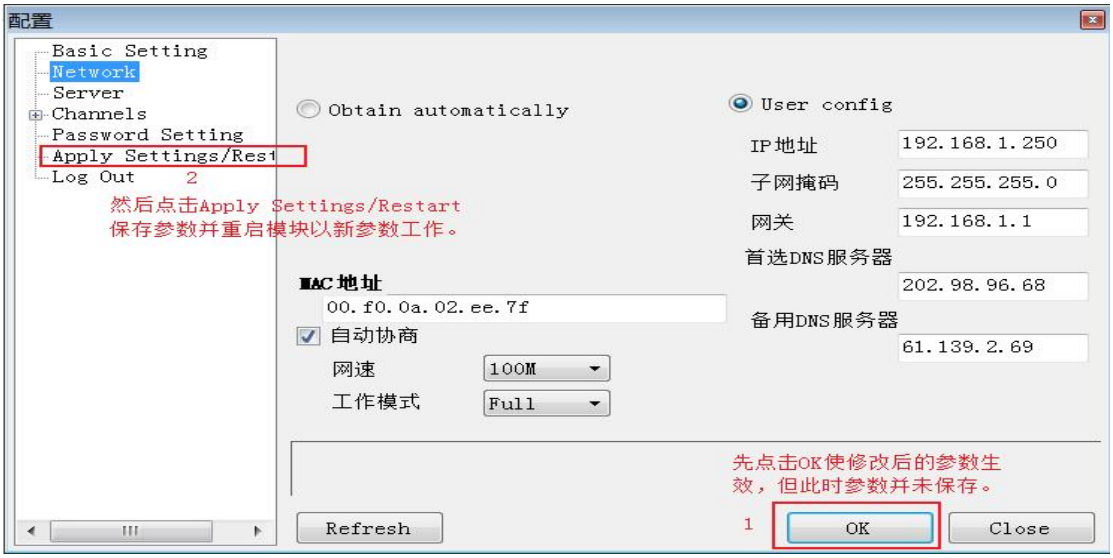

About the parameters configuration details, please read the "Device Manager Parameters setting software manual".

After you configure the ETH Adapter CN parameters, you need to run VCOMM virtual serial port software on the PC, simulate the ethernet interface of ETH Adapter CN as serial port (COM port) on the PC, then choose this serial port in the local connection of STEP7 software ,like you use the traditional PC Adapter.

Notice:The COM port of local connection in the “set PG/PC interface” menu of Siemens programming software STEP7 can most support COM8, even though it can display above COM8, in fact it can’t use.

About the detailed instructions of the VCOMM virtual serial port software, please read " VCOMM virtual Serial Port software Manual.

Here the serial port parameters setting of ETH Adapter CN is introduced.

The baud rate of ETH Adapter CN serial port supports 9600～115200bps,but Siemens STEP7 software only supports 19200bps and 38400bps two baud rate.The other serial port parameters of STEP7 is fixed as data bit=8 bits, Parity= Odd parity,stop bit=1 bit, abbreviation as 8O1,so you must set the serial port parameters of ETH Adapter CN is the same as this,or else it can’t build communication.

Firstly set ETH Adapter CN serial port parameters in parameters setting software , where the serial port protocol box "RS232" option is supporting RS232/RS485/RS422 communication and must ensure that this serial port parameters and the STEP7 software parameters are the same,that’s 19200bps、8O1 or 38400bps、8O1, Otherwise, It can’t normally communicate.

We all use baud rate 19200bps in the following examples.

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6. STEP7 software setting

We have setted the serial port parameters of ETH Adapter CN as 19200bps, 8O1 .

When the VCOMM virtual serial port software running on the PC simulate ETH Adapter CN as the COM port on the PC, the next using is just like traditional PC Adapter, you could choose to connect the MPI port or DP port of PLC depending on your requirement,and choose the corresponding protocol option in the "set PG/PC interface"of STEP7 .

Also the MPI or DP baud rate which you choosed in the "set PG/PC interface"of STEP7 must be same as PLC baud rate, Otherwise, It can't normally communicate. If you don't know the PLC MPI or DP baud rate,please choose "PC Adapter（Auto）" to check.

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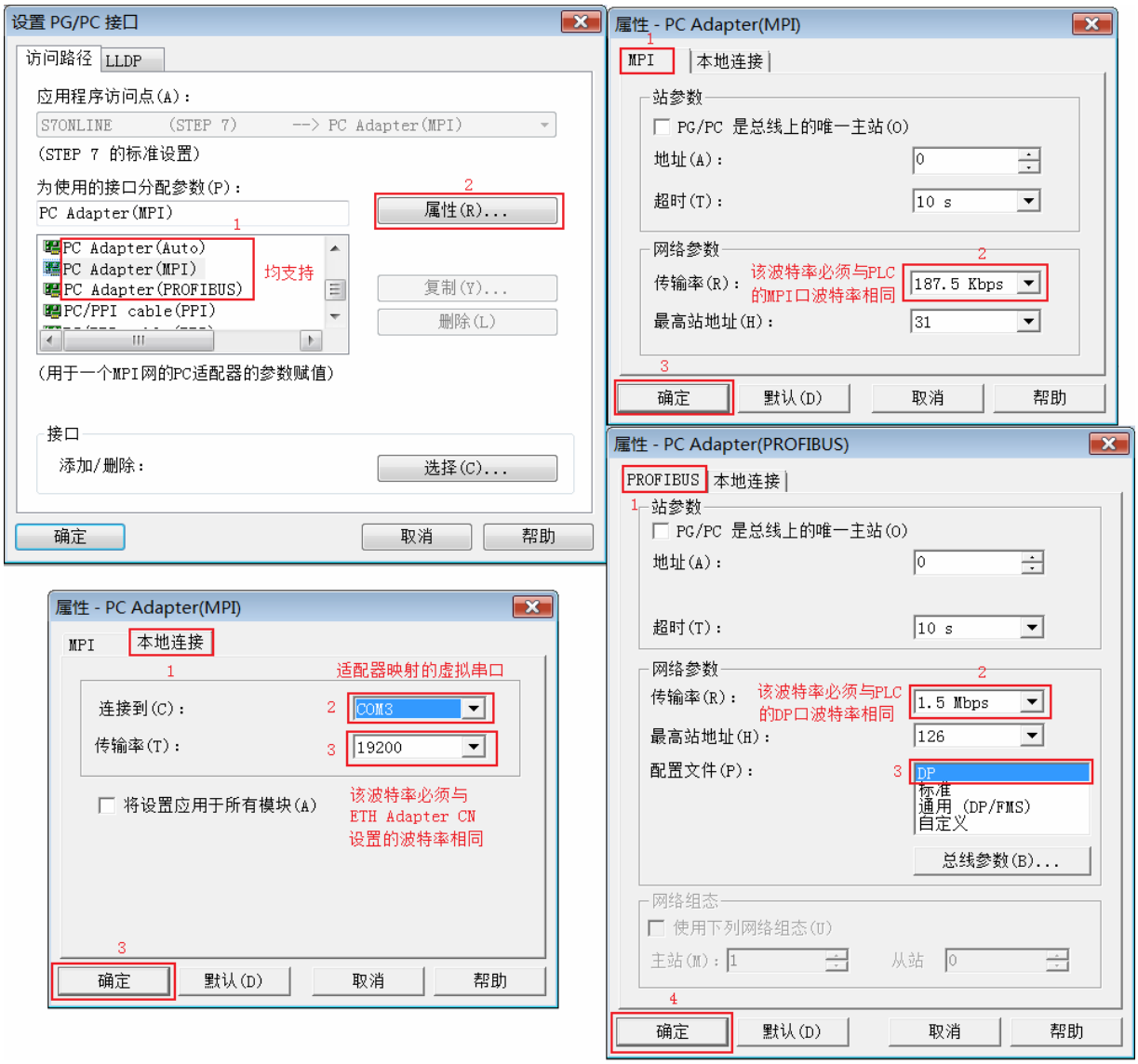


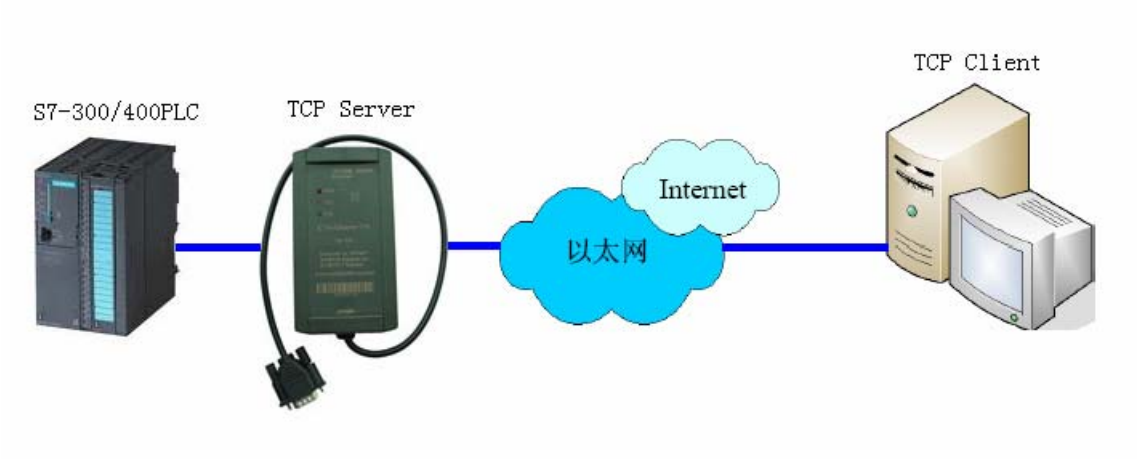
The application of ETH Adapter CN is very flexible and diverse, not limited to examples described below. You can use the ETH Adapter CN to connect the S7-300/400PLC to the Ethernet.It can also be achieved the worldwide data communication through the Internet, or wireless data communication through wireless LAN, 3G network card, 3G router.

7.The usage in the LAN

LAN communication generally refers to the same gateway, that is to say, the communication is among multiple Ethernet devices which are connected to a same router.

The ETH Adapter CN communication in the LAN needs to ensure that PC, ETH Adapter CN and routers have the same gateway, The gateway: 192.168.1.1, the computer IP address: 192.168.1.108, ETH Adapter CN IP address: 192.168.1.250 in the following examples.
Of course you also could not use router,and use RJ45 cable to connect the ETH Adapter CN and computer directly.

(1)PC work as Client,ETH Adapter CN work as Server



Set the ETH Adapter CN network parameters, the gateway of ETH Adapter CN,PC and router must be same, the DNS server needn't to be setted because you don't use the dynamic domain name on the Internet.

The setting of ETH Adapter CN serial port parameters is omitted here, you can see the previous description.

Set ETH Adapter CN working mode as TCP Server, port No. = 27011, waiting for clients to connect.

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Run the VCOMM virtual serial port software on the PC, set the simulated virtual serial port on the PC. Select VCOMM as Client mode, initiatively to connect the server-side equipment. Choose the device detector to create the virtual serial port.

Add a virtual serial port, the remote server IP address = ETH Adapter CN IP address, remote server monitoring port = ETH Adapter CN port.

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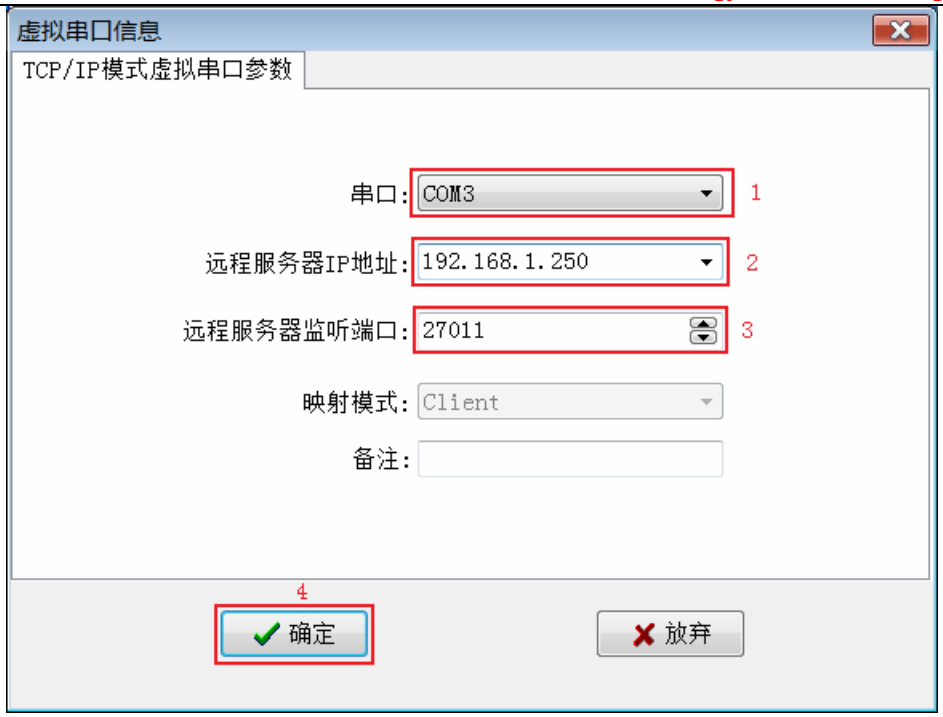

Click OK and exit the software and re-run VCOMM, the client side VCOMM will take the initiative to connect the server ETH Adapter CN with IP address 192.168.1.250, port number 27011, it will create a new serial port COM3 after establishing the connection, and it will appear in the Device Manager of the Windows system, then you choose this serial port in your application software, such as STEP7.

Of course you can use ETH Adapter CN to simulate each PLC as a COM port on the PC in order to achieve the data communication and monitoring operation between PC and multiple PLC s

(2)PC work as Server, ETH Adapter CN work as Client

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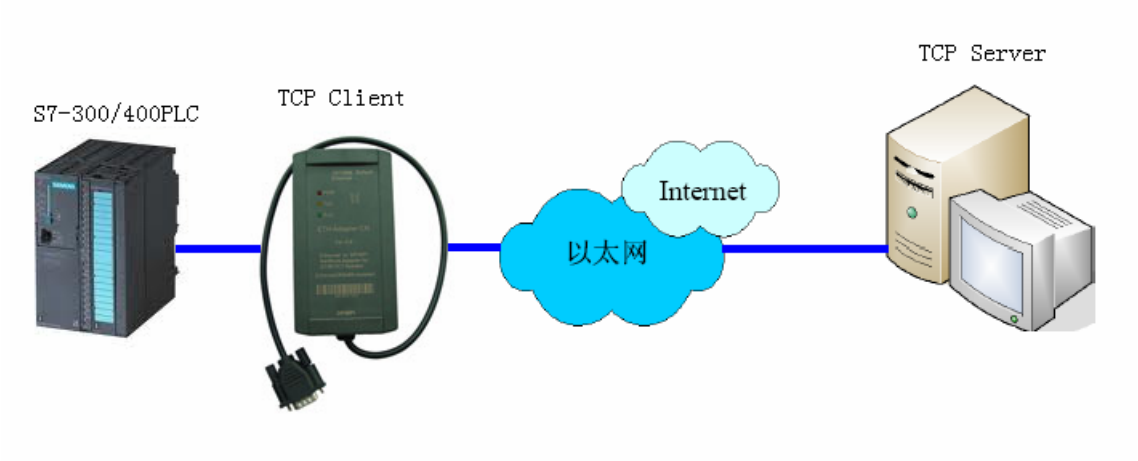
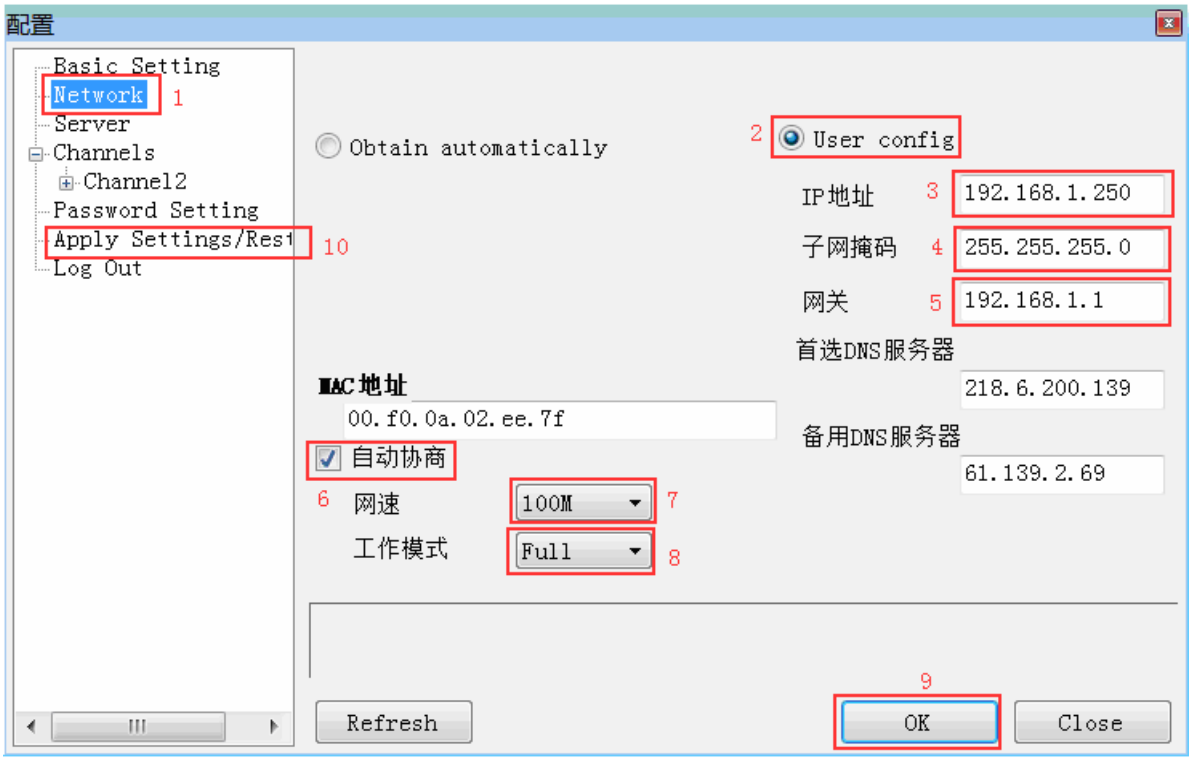


Set PC as server, ETH Adapter CN as client,let adapter take the initiative to connect the PC.

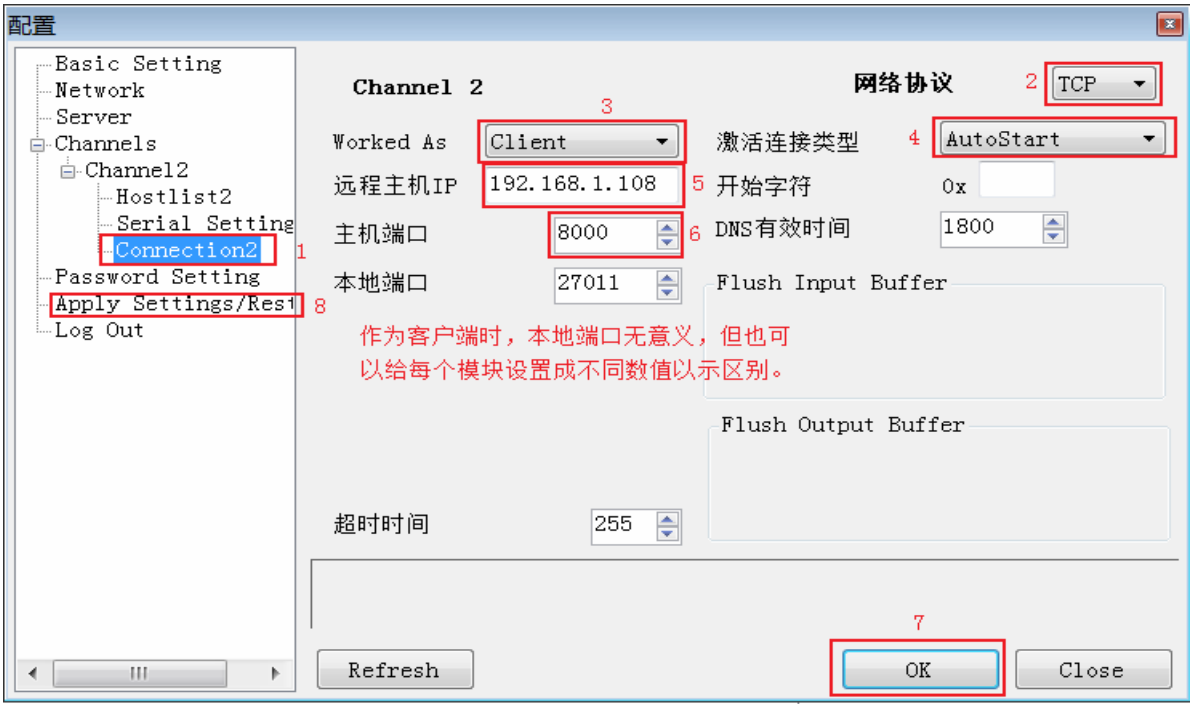
Set the ETH Adapter CN network parameters, the gateway of ETH Adapter CN,PC and router must be same, the DNS server needn't to be setted because you don't use the dynamic domain name on the Internet.



The setting of ETH Adapter CN serial port parameters is omitted here, you can see the previous description.

Set ETH Adapter CN as TCP Client,remote host IP=PC IP address,host port=VCOMM software port No..That's to say,the ETH Adapter CN will take the initiative to connect the server VCOMM

with IP=192.168.1.108,port No.=8000.



Run the VCOMM virtual serial port software on the PC, set the simulated virtual serial port on the PC. Select VCOMM as Server mode, wait for the client to connect. Choose the device detector to create the virtual serial port.

Add a new virtual serial port, the monitoring IP address = PC IP address, client mode device try to connect the port = VCOMM software port, this is 8000.

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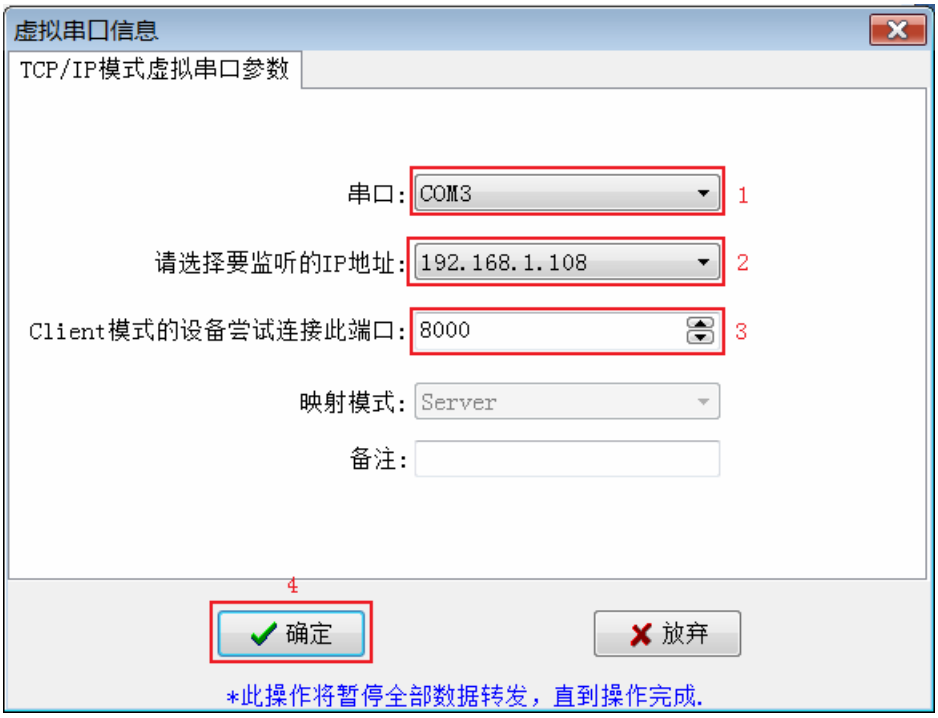
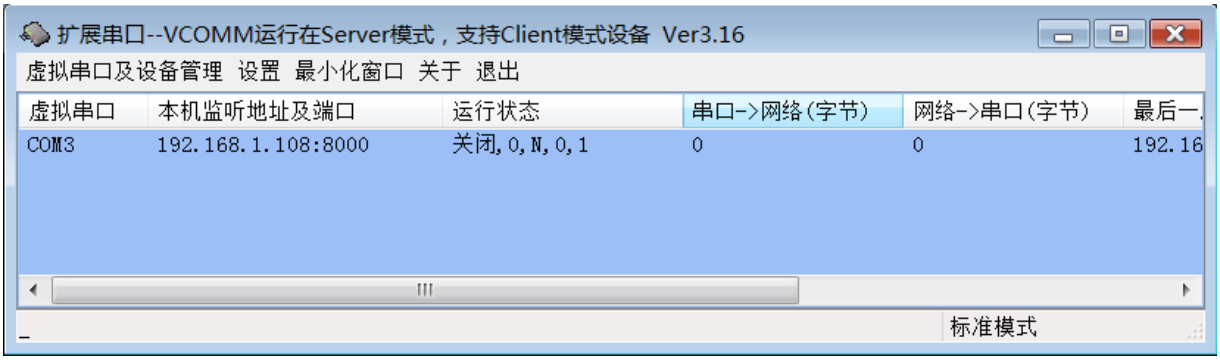


Click OK and exit the software and re-run VCOMM, server side VCOMM will accept the client side ETH Adapter CN connection. A new serial port COM3 will appear on the PC after the connection is established. And this serial port will also appear in the Windows System Device Manager, then you can choose this serial port in your applications,like STEP7.



Of course you can use ETH Adapter CN to simulate each PLC as a COM port on the PC in order to achieve the data communication and monitoring operation between PC and multiple PLC s

8. Remote communication in the internet

ETH Adapter CN can achieve the worldwide remote communication through the Internet, it will use the external network IP address of the router, the router external network address is different when the router is started every time, because the router will be randomly assigned to one IP address from the Internet when it ‘s powered every time, so this will result in trouble for remote communication through the Internet, There are two following methods to solve this problem:

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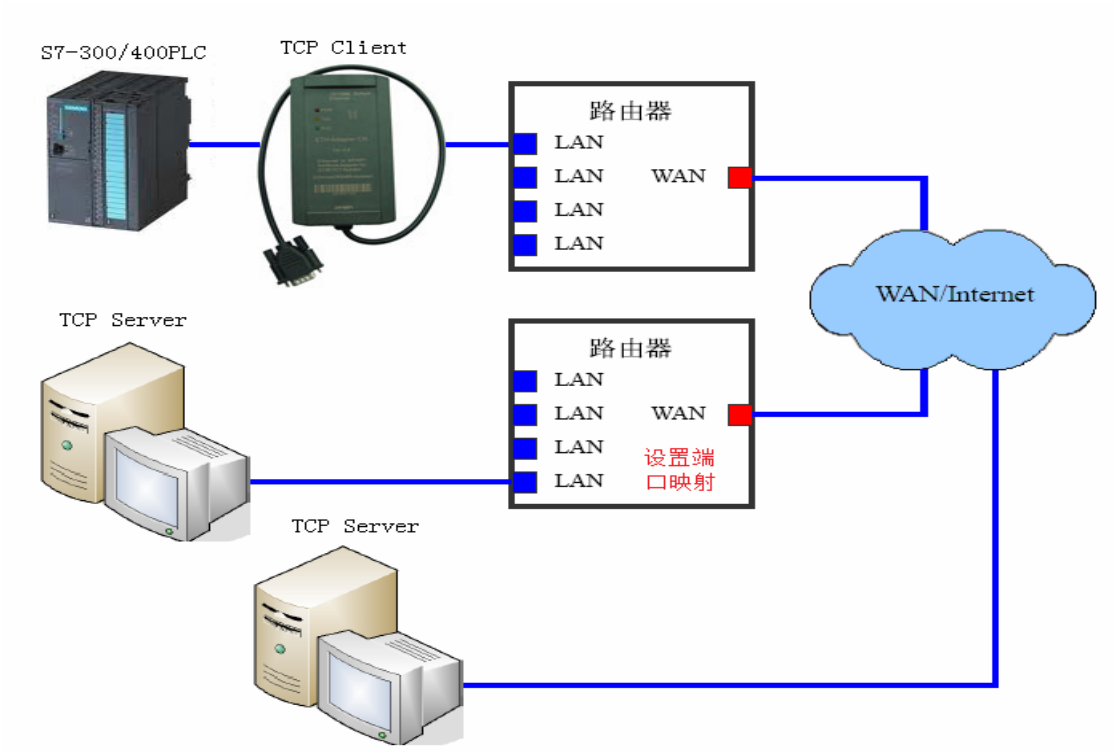
Apply to buy a fixed IP address from the Internet operators, the fee will be higher.

Use the domain name resolution.you can apply for a free or paid domain name from dynamic domain name service provider, then use domain name instead of IP address; so that regardless of changes in IP address, domain name will point to IP addresses in real time, like as we usually visit the website .

Some providers such as peanut shells and other dynamic domain name (DNS) service providers offer free and paid dynamic domain name service, you can consult them for their dynamic domain name service and charges issue. Firstly you need to apply a dynamic domain from DNS service provider , and download the Dynamic DNS client software, run this software on the host of Server mode(PC or router with DNS function).After the client software has been successfully started, Server host has solved the problem of dynamic IP address. Input the dynamic domain name in the IP input box of Client remote host, set the DNS server IP address as the local DNS server IP addresses, then you can use the dynamic domain name to visit the internet.

In the following example, use our free dynamic domain name: fourstar.vicp.cc, use the PC in Server-side and run the dynamic domain name client software, you can also use a router with the function of dynamic domain name .

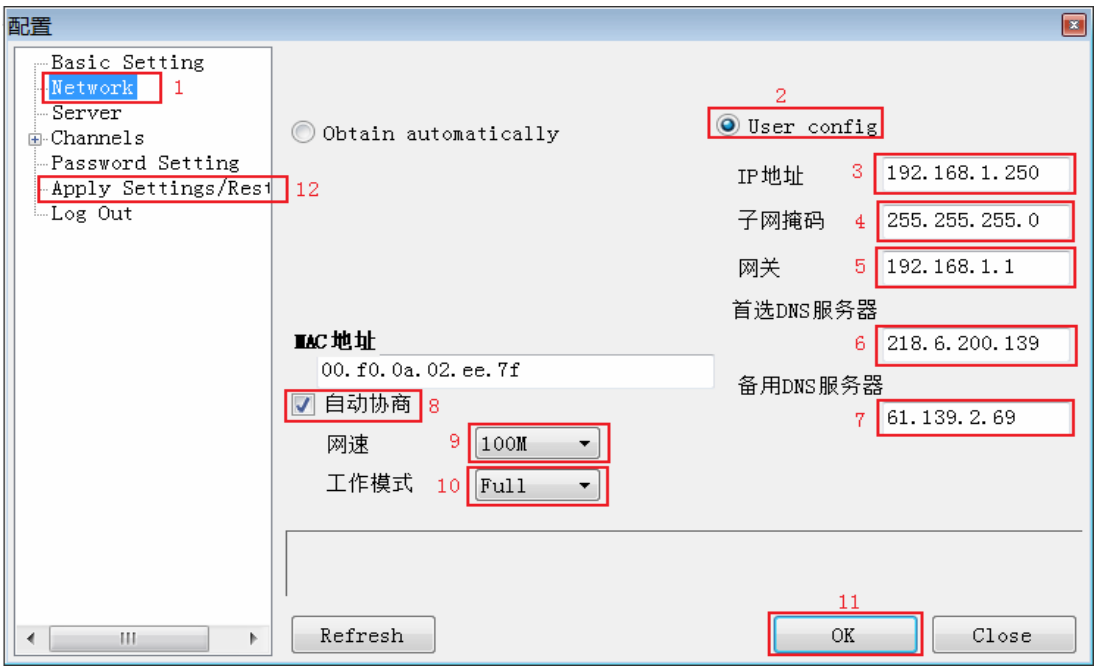
(1) PC work as Server, ETH Adapter CN work as Client



The most economical way to achieve the remote communication in the Internet between the PC

and S7-300/400PLC is that set the ETH Adapter CN as the client, set the PC as the server, install and run the DNS software on the PC, and set the Port mapping for PC on the router of PC side. As shown below:

Set ETH Adapter CN network parameters, the gateway must be the same as the router connected with the ETH Adapter CN, here you still need to properly set the IP address of DNS, different cities have different DNS Server IP, you can use all, but usually choose the local DNS,you can search these addresses from Internet, also can find them from the router which you are using.



The setting of ETH Adapter CN serial port parameters is omitted here, you can see the previous description.

Set ETH Adapter CN as TCP Client; remote host IP =domain name of remote PC, here is: fourstar.vicp.cc; host port = VCOMM software port number.

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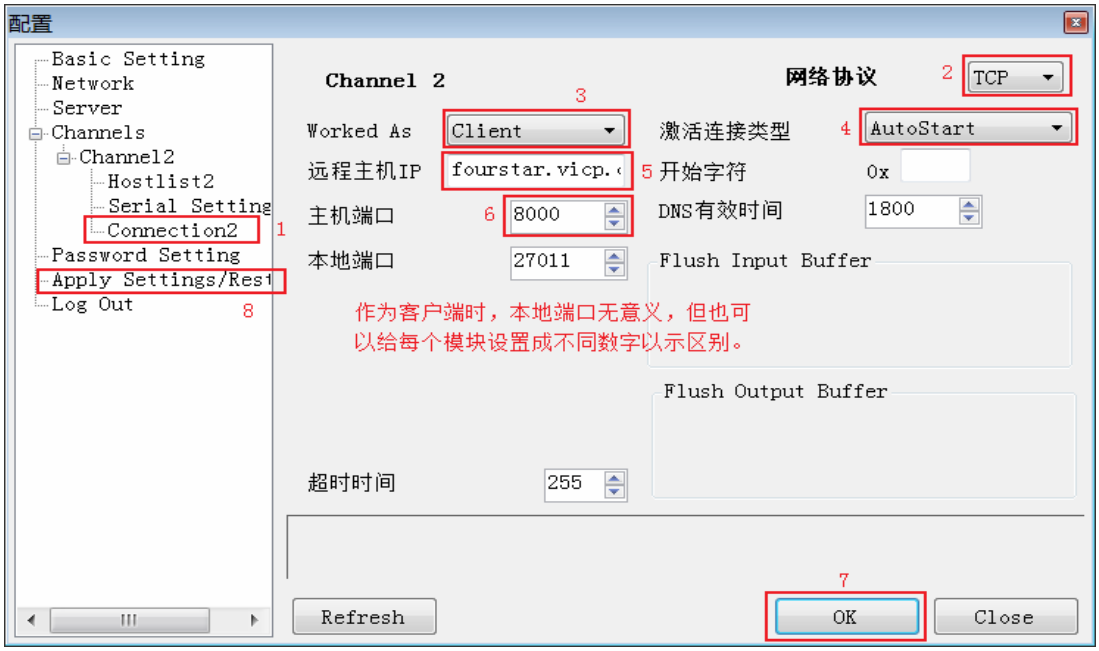

Input the IP address of the router in the IE browser address bar of the remote PC and then appear the router setting interface, set the port simulation for PC, as shown below. If your PC does not use the router to access Internet, then this step can be omitted.

The meaning of the above settings is that when the client ETH Adapter CN visit and access the router's external network IP address of PC (this address is automatically resolved by the domain name, you no longer cares about its change),router will automatically transfer this visiting to the VCOMM virtual serial port software on the PC with IP address 192.168.1.108, port 8000 which is connected to the router

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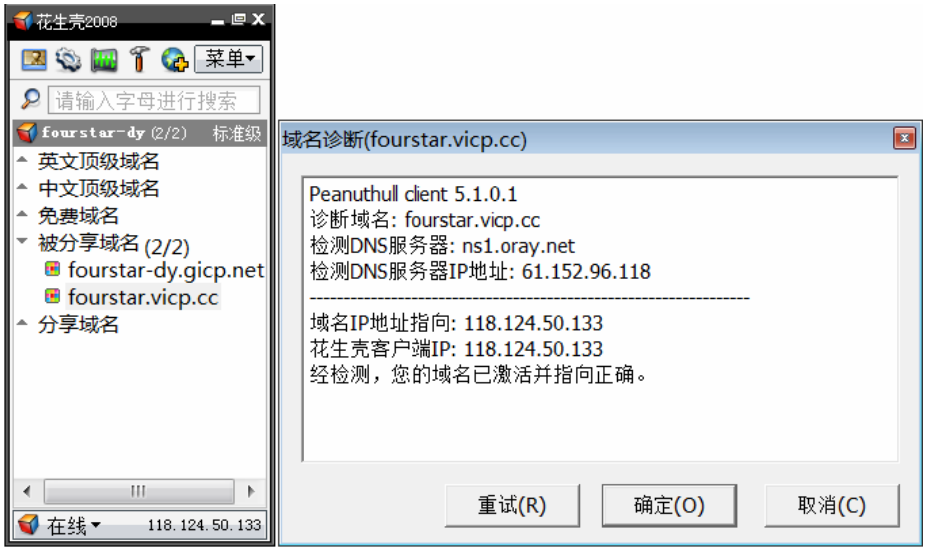
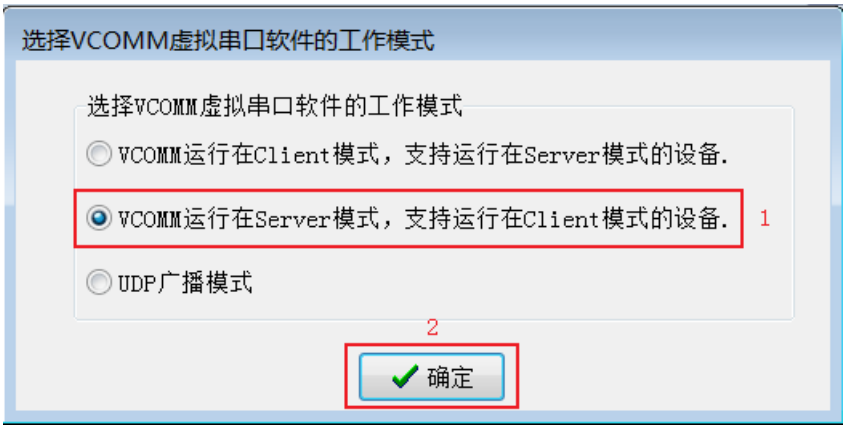
After setting, click "Restart Router" button or re-power the router to work with the new parameters.

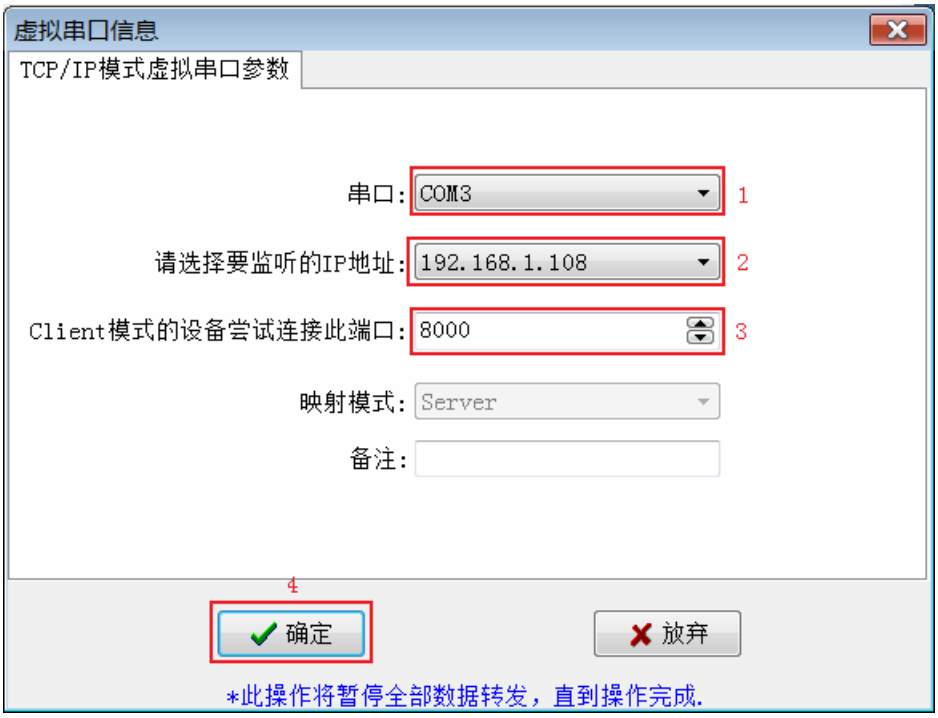
Run the client software on the PC, as shown below, the domain name fourstar.vicp.cc has been pointed to the external network IP address of the router.



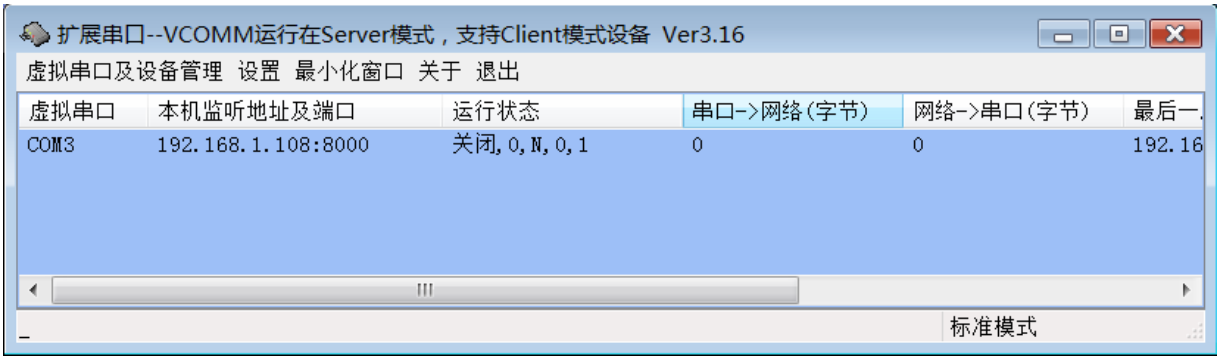
Run the VCOMM virtual serial port software on the PC, set the simulated virtual serial port on the PC. Select VCOMM as Server mode, accept client connections. Choose to use the device detector to create a virtual serial port.



Add a new virtual serial port, the monitoring IP address = PC IP address, client mode device try to connect the port = VCOMM software port, this is 8000.



Click OK and exit the software and re-run VCOMM, the server VCOMM will wait the connection of client ETH Adapter CN,then it will create a new serial port COM3 after establishing the connection, and it will appear in the Device Manager of the Windows system, then you choose this serial port in your application software, such as STEP7.



Of course you can use multiple ETH Adapter CN to simulate multiple PLC as multiple COM port on the PC (set the connection with multiple different ports), in order to achieve the data communication and control operation of the PC and multiple PLC respectively.

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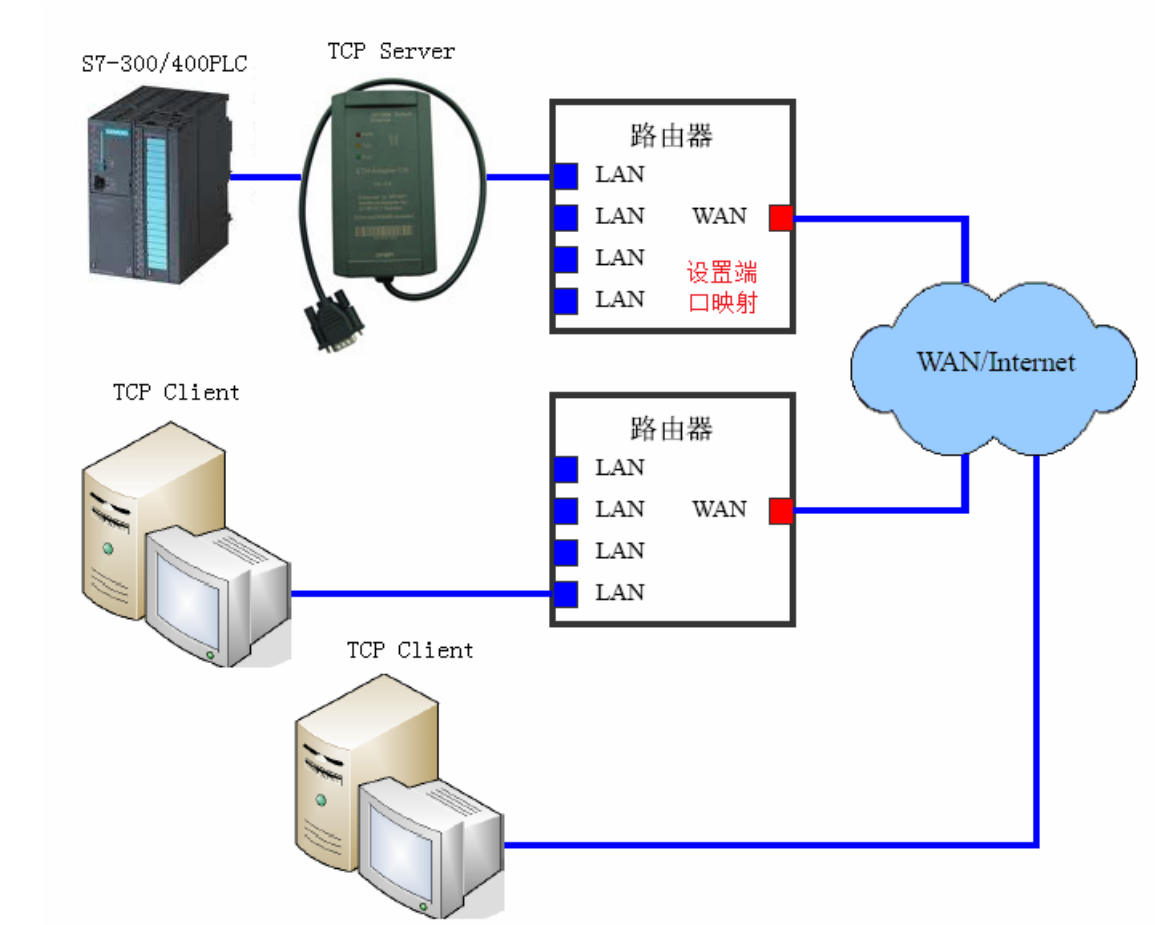
(2) PC work as Client,ETH Adapter CN work as Server



You also could set ETH Adapter CN as server,set VCOMM of PC as client, you need a router on the side of ETH Adapter CN which supports dynamic domain name (DNS),in order to avoid the high cost of application the fixed IP address from the local Internet operators, and this router is very common now, please notice the instructions on the package when you purchase it.

The router with DNS function need to be installed on the side of ETH Adapter CN,and need to set the port simulation for ETH Adapter CN on the router, also could connect a PC with the router which is connected with the ETH Adapter CN to run the software to resolve the domain name.You could directly input the domain name of remote host when the VCOMM software work as the client,support DNS resolution.

Enter the dynamic DNS setting interface of router, input the user name and password of the Dynamic DNS which you applied,as shown below,then you can find our domain name fourstar.vicp.cc is connected successfully.

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Click "Restart Router" button or re-power the router to work with the new parameters. Similarly, when ETH Adapter CN go on external network communication,you need to set the port simulation on the router connected with the server ETH Adapter CN, input the IP address of router in the IE browser of PC connected with this router and then enter the virtual server setting interface of the router.

The server port = local port of server ETH Adapter CN; IP address = IP address of server ETH Adapter CN; Select the "Enable", click "Save" button to save these configured parameters.

Set the parameters of server ETH Adapter CN as below:

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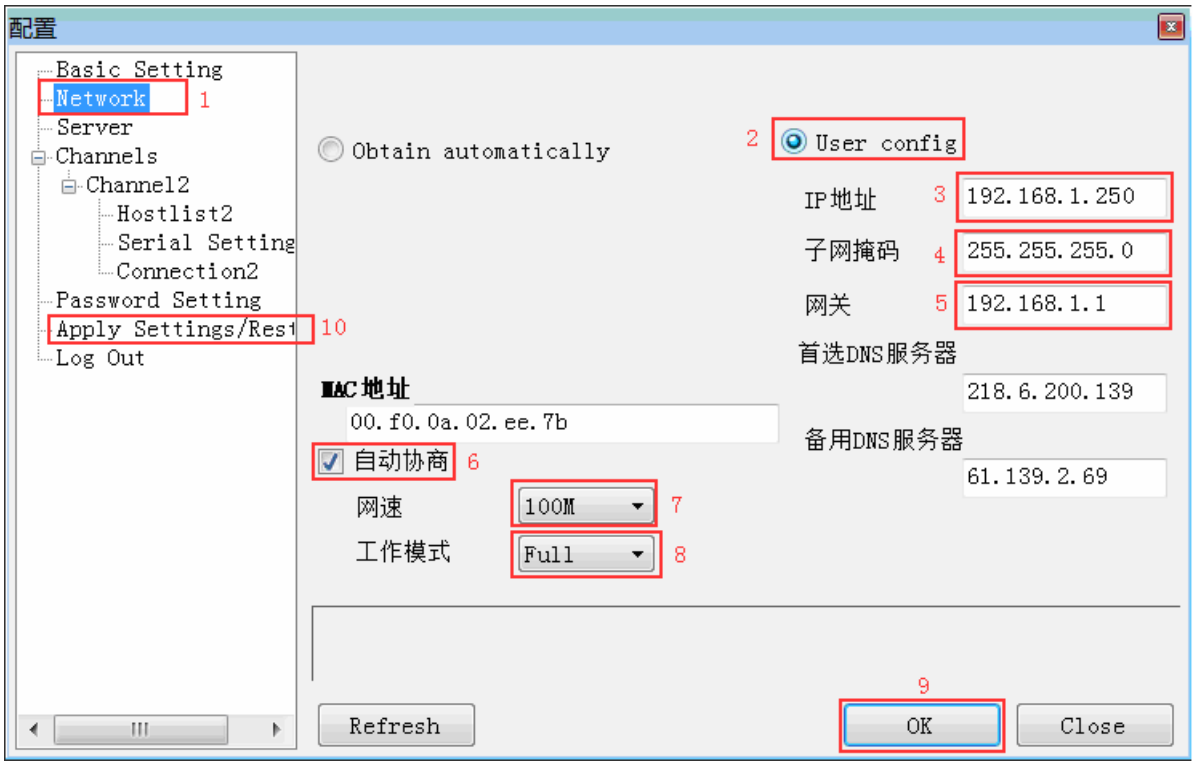

Set VCOMM virtual serial port software parameters on the remote PC,select VCOMM as Client working mode,choose to use the device detector to create the virtual port.

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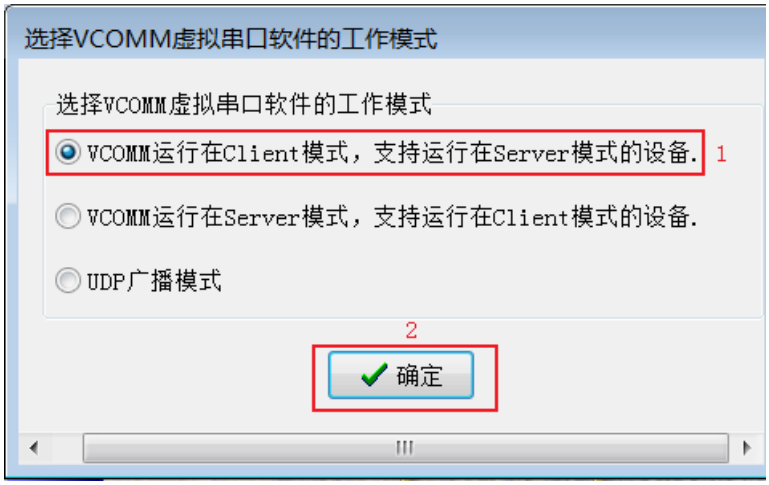
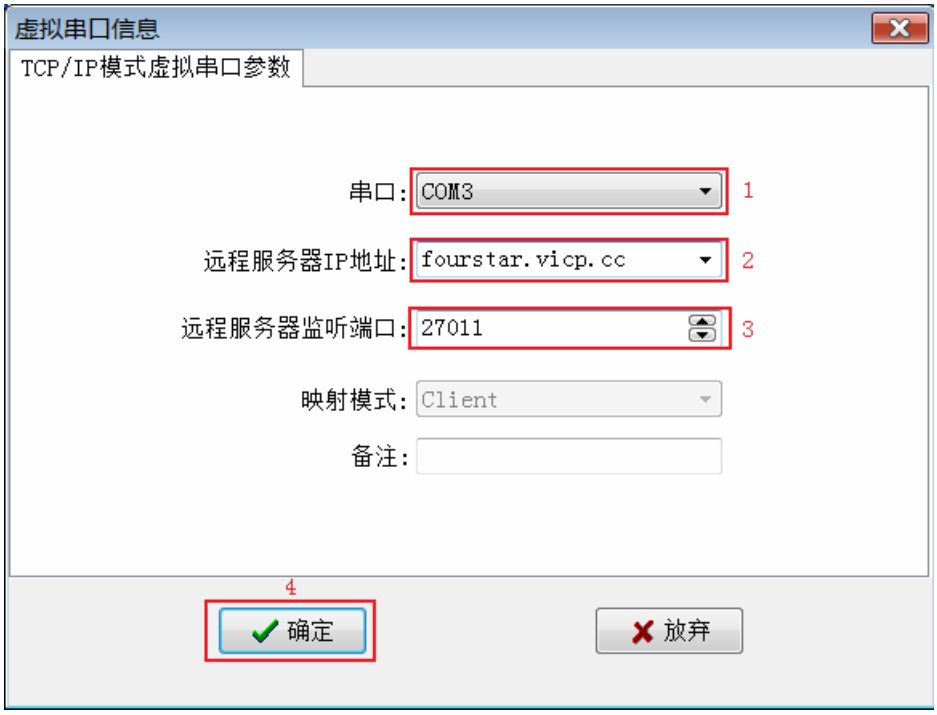


Create the virtual serial port COM3,input the domain name fourstar.vicp.cc in the “remote sever IP address”box,input the local port No. of ETH Adapter CN “27011” in the “remote server monitoring port ” box.



Click OK and exit the software and re-run VCOMM, the client VCOMM will take the initiative to build the connection with the server ETH Adapter CN.Then it will create a new serial port COM3 after establishing the connection, and it will appear in the Device Manager of the Windows system, then you choose this serial port in your application software, such as STEP7 .

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Of course you can use multiple ETH Adapter CN to simulate multiple PLC as multiple COM port on the PC (set the connection with multiple different ports), in order to achieve the data communication and control operation of the PC and multiple PLC respectively.

9. Remote wireless communication in the 3G wireless internet

Using the wireless Internet platform of telecommunication etc network operators, all the Ethernet to Serial port modules can be very convenient to achieve wireless communication, that is to say, you can use the wireless router to achieve the wireless communication in the LAN, you can also use the 3G router , 3G network card to achieve the worldwide Internet wireless communication. As long as any places where the wireless Internet is available,then the wireless communication between the S7-300/400PLC and PC can be achieved, which has extended a broader application range.

In fact when you use wireless communication,the setting method is almost as same as the previous introduction.,only 3G router, wireless network card of different manufacturers may have some differences in the usage, so please read the corresponding product manual. When the ETH Adapter CN works as the server, it is best to use the 3G router with the function of dynamic domain name to connect the ETH Adapter CN.

The following are programs of wireless communication in the Internet wireless network platform.

(1) PC work as Server, ETH Adapter CN work as Client

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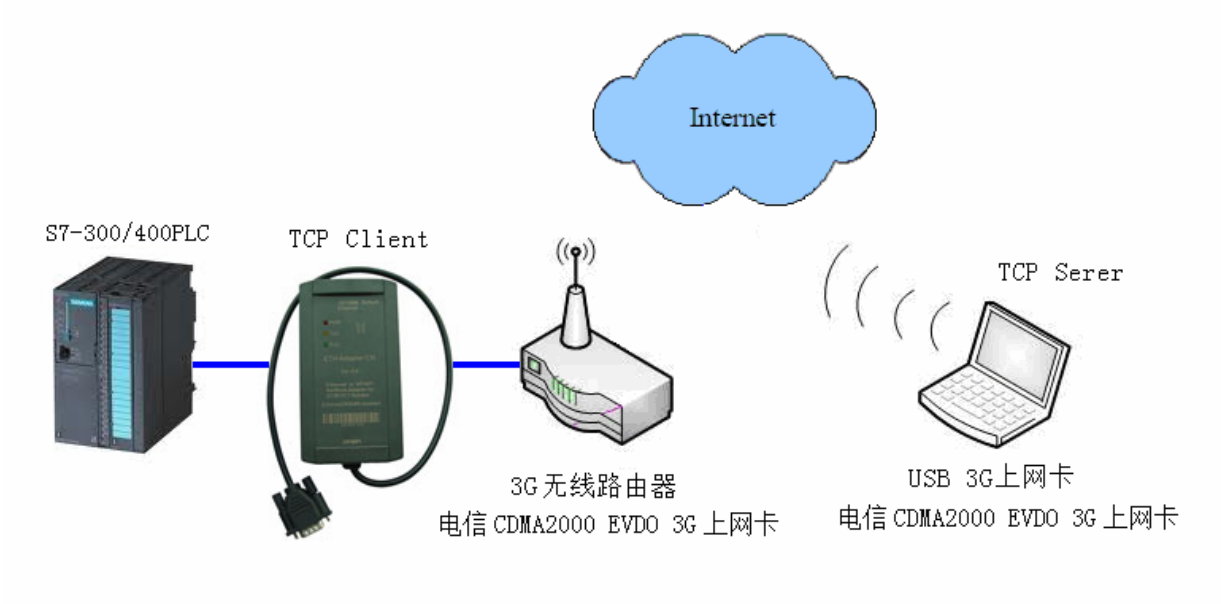

(2) PC work as Client,ETH Adapter CN work as Server

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10.Order info

Product name: Siemens　S7-300/400PLC Ethernet Adapter
Product model：ETH Adapter CN

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11,Appendix: basic knowledge of Ethernet

TCP / IP transport layer provides two common agreements of TCP and UDP, the two protocols provide the transmission mechanism of TCP / IP network applications. TCP provides a guaranteed and reliable information transmission, and UDP use non-guaranteed and non-reliable method to transmit information.

1.TCP mode

TCP is a guaranteed connection based protocol, before transmitting, the equipment must first establish duplex connection, disconnect after data transfer is complete. Sending the data need to receive confirmation of the host then continue sending data, if not received confirmation of the host or data error, need a certain number of retransmissions. In this way it will be additional traffic, so slowly than UDP.

TCP communications, including the client (Client) and server (Server), the client take the initiative to connect to the server, the server can only be a passive client connections, once establish the connection, the client and server can be duplex data transfer at any time.

Our Ethernet to serial communication module using TCP mode including: TCP Server, TCP Client.

TCP Server (TCP Server) mode:

When the module works in the TCP Server mode, it does not take the initiative to connect to other devices, but listening on local port, and wait for client connections, if the client can establish a connection then will go on the duplex communications.

TCP Client (TCP Client) mode:

When the module works in the TCP Client mode, it will take the initiative to connect the setted TCP server in advance, if the connection is not successful, it will continue to attempt to reconnect, once the connection success the server will go on the duplex data communications.

2.UDP mode

UDP protocol is unreliable connectionless protocol, data transmission is not required to establish a connection, do not need to receive confirmation form the host for data transmission, so the UDP protocol does not guarantee the data sent to the target host packets are received correctly, for high reliability requirements of the occasion can use the higher level of communication protocol to ensure data is correct.

UDP is a relatively simple way of communication, it will not increase too much extra traffic, it can communicate faster than the TCP to provide real time communication. UDP does not need the server and client, both parties are on equal communication.

Our Ethernet to serial communication module using UDP mode including: UDP Uni_Cast, UDP

Multi_Cast.

UDP unicast (UDP Uni_Cast) mode:

Module in the UDP Uni_Cast mode, it can be point to point duplex data transmission, although it can send data to several other hosts, but only one host can send data to the module back .

UDP Multicast (UDP Multicast) mode:
The modules in the network use the multicast ID is one between 224.0.0.0-239.255.255.255 address as its multicast group address, all the modules in the multicast network can be duplex data transfer, and no master slave distinguish, This mode is easy for old RS485 network upgrade to Ethernet.

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